

**REMARKS**

With the entry of the present amendments, claims 1-11, 16-20, 25-30, 35-39, 41-43 and 45-48 are pending in the application. Claims 12-15, 21-24, 31-34, 40, 42, 44 have been canceled. Claims 1, 16, 18-20, 25-27, 35, 37, 38, 41 and 43 have been amended. New claims 45-48 have been added. Support for the claim amendments and the new claims may be found throughout the application as filed including, but not limited to:

Claims 1, 16, 25 and 35: page 4, paragraph 15;  
Claims 18, 20, 26 and 41: page 3, paragraph 13;  
Claim 19: page 7, paragraph 23;  
Claims 27 and 37: claim 37, as originally filed;  
Claim 38: page 6, paragraph 19; and  
Claim 43: page 6, paragraph 19 and page 7, paragraph 23; and  
Claims 45-48: Example 1, pages 9-12.

In view of the following remarks reconsideration and withdrawal of the rejections to the application and the office action is respectfully requested.

**I. AMENDMENTS TO THE SPECIFICATION**

Applicants have amended the title of the present application to remove the reference to container lubricants. This amendment has been made to reflect the cancellation of the claims relating to container lubricants and methods for lubricating containers.

**II. REJECTION OF CLAIMS 1-44 UNDER 35 U.S.C. § 103(a), IN VIEW OF U.S. PATENT NO. 6,485,794.**

In the Office Action, claims 1-44 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,485,794 issued to Li, et al. (hereinafter “Li”). Applicants respectfully traverse.

In order to establish a prima facia case of obviousness based on a single reference, that reference must teach each and every claim limitation in the rejected claims and there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. (MPEP 2142). Li fails to teach methods or compositions for lubricating conveyors wherein a curable composition is

applied to a conveyor part and *non-thermally* and *non-radiatively* cured, as recited in independent claims 1, 18, 39 and 41.

Li recites a lubricating coating that is *thermally or radiation* cured. Li clearly defines these terms as follows:

If the lubricant composition is thermally curable, then it can be cured using a variety of energy sources that will generate sufficient heat to initiate and promote hardening of the lubricant coating, while staying within the thermal cure temperature limits noted above. Suitable sources include conventional heaters, infrared radiation sources, and microwave energy sources.

If the lubricant composition is radiation curable, then it can be cured using a variety of energy sources that will induce a photochemical reaction and thereby harden the film former, including ultraviolet radiation, visible light, infrared radiation, X-rays, gamma rays, and electron beams. Preferred energy sources include mercury vapor arc lamps, fluorescent lamps, tungsten halide lamps, visible lasers and infrared lamps.

(Emphasis added.) (See col. 7, lines 5-19.) In contrast, the present invention specifically states:

A composition is non-thermally cured when curing takes place at room temperature without the use of any additional heating sources, such as heaters, ovens, infrared lamps, or microwave sources. A composition is non-radiatively cured when curing takes place at ambient room lighting conditions without the use of additional radiation sources such as ultraviolet lamps, infrared lamps, x-ray, or gamma-ray sources.

(Emphasis added.) (See page 3, paragraph 13.) It would be obvious to one of ordinary skill in the art of coatings that there is a clear distinction between coatings requiring outside energy (heat or radiation) sources to cure and those that cure at room temperature. In fact, there are specific branches of coatings chemistry dedicated to each field.

Rejected claims 1-26, 39 and 41 recite a composition that has been *non-thermally and non-radiatively cured*. Because Li teaches only compositions that have been thermally or radiatively cured, Li does not anticipate these claims. For this reason, Applicants respectfully request that the rejection of these claims be withdrawn.

Li also fails to teach a lubricating composition comprising a mixture of a hydrophobic polymer and an alkali soluble resin as recited in independent claims 27 and 43. In the Office Action, the Examiner did not identify any language in Li describing a lubricating composition comprising a mixture of a polymer and a resin. Regarding the disclosure of Li, the Examiner did state, "The coating composition typically will include at least one film-forming ingredient . . . Representative film formers are taught in column 3, lines 29+, including, *inter alia*,

polyurethanes and resins comprising acrylic monomers, styrenic monomers or a mixture of styrenic monomers.” However, nothing in this statement teaches a composition containing *both* a hydrophobic polymer *and* an alkali soluble resin. Although the phrase “film-forming ingredient” is not defined in Li, the specification makes it clear that a film-forming ingredient is itself either a polymerizable or crosslinkable material. This is supported by the fact that all of the examples of film-formers in Li are monomers, oligomers or polymers intended to undergo either polymerization or crosslinking reactions. (See, for example, col. 3, lines 23-45.) Thus, in the context of the Li disclosure, the phrase “at least one film-forming ingredient” is properly understood to refer to at least one entity intended to undergo a polymerization or crosslinking reaction. In this context, more than one film-forming ingredient refers to a mixture of two or more entities that polymerize or crosslink with each other to form a film, and not to a mixture of two or more separate polymeric components, such as a hydrophobic polymer and an alkali soluble resin, as recited in claims 27 and 43. In addition, while it is true that the list of possible film-formers cited by the Examiner at col. 3, lines 29+ includes both polyurethanes and acrylic resins, that list does not teach or suggest mixing the two. It is possible that the Examiner is relying on the sentence, “Preferred film formers include urethanes, acrylics, epoxies, melamines and blends or copolymers thereof,” in support of the rejection of claim 27. However, a careful reading of that sentence reveals that the “blends” refer to blends of urethane, acrylic, epoxy and melamine *monomers*, rather than polymers. This is made evident by the use of the word “copolymers” in the sentence. A copolymer is a polymer made from more than one type of monomer. Therefore, the phrase “urethanes, acrylics, epoxies, melamines and blends *or copolymers thereof*” only makes sense if the members recited in the sentence refer to monomers. Applicants further note the none of the seven examples provided by Li include a lubricant composition made from a mixture of two different polymers. Therefore, Li fails to teach or suggest a lubricant composition containing a mixture of a hydrophobic polymer and an alkali soluble resin, as recited in pending claims 27-30, 35-38 and 43. For this reason, Applicants respectfully request that this rejection be withdrawn.

Even if the Li did teach a lubricant composition containing two different polymers, as the Examiner seems to suggest, the Examiner has not established a *prima facie* case of obviousness for the selection of a hydrophobic polymer and an alkali soluble resin, as recited in claim 27 or for the selection a hydrophobic polymer having a number average molecular

weight of at least about 30,000 and an alkali soluble resin having a number average molecular weight of no more than about 20,000, as recited in claim 37. The fact that a claimed species or subgenus is encompassed by the prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. (MPEP 2144.08 II.) To establish a *prima facie* case of obviousness in a genus-species chemical composition situation, as in any other 35 U.S.C. § 103 case, it is essential that Office personnel find some motivation or suggestion to make the claimed invention in light of the prior art teachings. (MPEP 2144.08 II. A.) Based on the evidence as a whole, Office personnel should make express fact-findings relating to the *Graham* factors, focusing primarily on the prior art teachings. The fact-findings should specifically articulate what teachings or suggestions in the prior art would have motivated one of ordinary skill in the art to select the claimed species or subgenus. (MPEP 2144.08 II. A. 5.) Here, the Examiner has failed to articulate any specific language in Li that would suggest the selection of a hydrophobic polymer and an alkali soluble resin in the production of a lubricant composition.

Finally, even if the Examiner had established a *prima facie* case of obviousness, it could be overcome based on the unexpected and improved results provided by lubricant compositions that include a mixture of a hydrophobic polymer and an alkali soluble resin (ASR). These results are clearly laid out in the pending application, which states, “For example, in some coatings the ASR may have a number average molecular weight from about 500 to 20,000. The inclusion of these low molecular weight ASRs in the lubricating coatings may be advantageous because they help to expedite coating drying. It has been discovered that a mixture of an ASR with a higher molecular weight polymer emulsion (i.e. having a number average molecular weight of at least about 30,000, desirably at least about 40,000, or even at least about 50,000), is particularly well-suited for producing a fast drying, highly durable, lubricating coating with a low coefficient of friction.” (See page 24, paragraph 19.)

For all of the reasons discussed above, Applicants respectfully request that these rejections be withdrawn.

**III. REJECTION OF CLAIMS 1-44 UNDER 35 U.S.C. § 103(a), IN VIEW OF U.S. PATENT APPLICATION PUBLICATION NO. 2002/0051850.**

In the Office Action claims 1-44 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Application Publication No. 2002/0051850, issued to Bennett, et al. (hereinafter “Bennett”). Applicants respectfully traverse.

In order to establish a *prima facia* case of obviousness based on a single reference, that reference must teach each and every claim limitation in the rejected claims. (MPEP 2142). Bennett fails to teach methods or compositions for lubricating conveyors wherein a composition is applied to a conveyor part and cured or dried, as recited in independent claims 1, 18, 27, 39 and 41.

Throughout the specification, the lubricant of Bennett is consistently referred to as a *liquid* lubricant. By contrast, the claims of the present invention are directed to lubricant compositions that are cured (e.g., dried). The pending application clearly distinguishes the cured compositions described therein from liquid lubricants of the type disclosed in Bennett by defining “curing” as “a process wherein a substantially liquid composition goes from a substantially liquid state to a *solid or semi-solid state*.” (See page 3, paragraph 13.) Because Bennett teaches only liquid lubricants, Bennett does not anticipate any of the pending claims. For this reason, Applicants respectfully request that the rejection of these claims be withdrawn.

**IV. REJECTION OF CLAIMS 1-5, 10-12, 18-21, 40 AND 42 UNDER 35 U.S.C. § 103(a), IN VIEW OF PCT PATENT PUBLICATION NO. WO 92/19505.**

In the Office Action claims 1-5, 10-12, 18-21, 40 and 42 were rejected under 35 U.S.C. § 103(a) as unpatentable over PCT Patent Application Publication No. WO 92/19505. WO 92/19505 is directed to coatings for thermoplastic containers. Although Applicants respectfully disagree with this rejection, the pending claims have been amended or cancelled to remove all claims to lubricant compositions for containers, in order to facilitate timely prosecution of the remaining claims. Therefore, Applicants believe this rejection has been overcome.

**V. REJECTION OF CLAIMS 18, 20-26, 41 AND 42 UNDER 35 U.S.C. § 112, FIRST PARAGRAPH.**

In the Office Action claims 18, 20-26, 41 and 42 were rejected under 35 U.S.C. § 112, first paragraph as lacking enablement for lubricant compositions that do not contain a hydrophobic polymer and at least one wax. Although Applicants respectfully disagree with

this rejection, claims 18 and 41 have been amended to include the limitation that the compositions recited therein include at least one hydrophobic polymer. Applicants note that wax is clearly described as a desirable, yet optional, component of the claimed compositions (see, for example, page 7, paragraph 23) and, therefore, have not included wax as an element in the compositions recited in claims 18 and 41. Applicants believe that these amendments place the claims in condition for allowance and respectfully request that this rejection be withdrawn.

**VI. REJECTION OF CLAIMS 27-38 AND 43-44 UNDER 35 U.S.C. § 112, SECOND PARAGRAPH.**

In the Office Action claims 27-38 and 43-44 were rejected under 35 U.S.C. § 112, second paragraph as lacking antecedent basis for the phrase “at least one additional hydrophobic polymer.” Independent claims 27, 37, 38 and 43 have been amended, changing the phrase “at least one additional hydrophobic polymer” to “a hydrophobic polymer.” Applicants believe that these amendments place the claims in condition for allowance and respectfully request that this rejection be withdrawn.

**VII. NEW CLAIMS 45-48.**

New claims 45-48 have been added to the application. Each of these claims recites a lubricating coating containing a hydrophobic polymer, wherein the lubricating coating is formed without the need for crosslinking the hydrophobic polymer subsequent to its application to a conveyor part. Support for these new claims may be found in Example 1 and of the specification. Example 1 presents a lubricant formulation containing C-41 polymer emulsion. C-41 is a hydrophobic acrylic polymer described in detail in Table 1 on pages 5-6 of the specification. Importantly, C-41, which is applied to the conveyor belt as a fully polymerized polymer, provides a lubricating coating without post-application crosslinking.

The compositions recited in new claims 45-48 are distinguishable from the lubricant compositions of Li, all of which require either post-application polymerization or post-application crosslinking.

In view of the foregoing remarks, Applicants respectfully submit that all of the claims remaining in the application are in condition for allowance and favorable action thereon is respectfully solicited.

Respectfully submitted,

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